bonds and (2) at least one oxygen-containing gas selected from the group consisting of O_2, N_2O, NO_2, CO, CO_2, and H_2O;

(b) converting the film-forming gas into a plasma;

(c) contacting the substrate with the plasma to form the silicon-containing barrier insulating film on the substrate; and

(d) forming an interlayer insulating film on said barrier insulating film by coating or plasma enhanced CVD.

2. (Amended) A film forming method according to claim 1, wherein at least one member selected from a group consisting of N_2 and H_2 is added to the film-forming gas.

3. (Amended) A film forming method according to claim 1, wherein (1) is trimethoxysilane (TMS:$SiH(OCH_3)_3$).

4. (Amended) A film forming method according to claim 1, wherein (1) is tetramethyldisiloxane (TMDSO:$(CH_3)_2HSi\text{-}O\text{-}SiH(CH_3)_2$).

5. (Amended) A film forming method according to claim 1, wherein parallel-plate type electrodes are employed as a plasma generating means, and wherein high frequency power having a frequency of 100 kHz to 1 MHz is applied to an electrode on which the substrate is loaded and high frequency power having a frequency of 1 MHz or more is applied to an electrode opposing the electrode on which the substrate is loaded.

8. (Amended) A semiconductor device manufacturing method according to claim 6, wherein said interlayer insulating film has a greater thickness than the barrier insulating layer.

Please add the following new claims:

--19. A semiconductor device manufacturing method comprising:

forming wiring on a surface of a substrate;

preparing a film-forming gas comprising, (1) at least one member selected from the group consisting of alkoxy compounds having Si-H bonds and siloxane compounds having Si-H bonds and (2) at least one oxygen-containing gas selected from the group consisting of O_2, N_2O, NO_2, CO, CO_2, and H_2O; [and]

converting the film-forming gas to a plasma;

contacting the surface of the substrate with the plasma to form a silicon-containing barrier insulating film on the substrate; and

forming an interlayer insulating film on said barrier insulating film.

20. A film-forming method according to claim 1 wherein (1) is TMS and (2) is N_2O and wherein the volumetric ratio of N_2O/TMS is about 30:1.

21. A film-forming method according to claim 1 wherein step (d) forms a porous insulating film or a SiOF film by plasma enhanced CVD.--